ABSTRACT OF THE DISCLOSURE

A method and apparatus for providing welding power with an arc-width control is disclosed. The power supply includes a power circuit that provides a welding output characterized by a plurality of welding output parameters, and the power circuit receives at least one control input. A controller provides control signals to the power circuit. The controller receives user inputs for arc width and wire feed speed. The controller has an arc width control module that provides control signals that adjust one or more welding output parameters. The adjustment has a gain responsive to the wire feed speed input, such that there are at least three gains over a range of possible wire feed speeds, in one embodiment. The arc width control module provides control signals that adjust at least five welding output parameters in response to the wire feed speed input and the arc-width control input, in another embodiment.